RESEARCH, DEVELOPMENT and TECHNOLOGY TRANSFER
QUARTERLY PROGRESS REPORT (QPR)

Wisconsin Department of Transportation (WisDOT)
DT1241 5/2014

INSTRUCTIONS:
Research principal investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT Research Program Category	**Report Period** *(enter year and check which quarter)*
☐ Policy Research	Year: 2014
☒ Wisconsin Highway Research Program	☐ Quarter 1 (Jan 1 – Mar 31) ☐ Quarter 3 (Jul 1 – Sep 30)
☐ Other: _____	☐ Quarter 2 (Apr 1 – Jun 30) ☒ Quarter 4 (Oct 1 – Dec 31)

Project Title	WisDOT Project ID
Performance and Design of Bridge Approach Panels in Wisconsin	0092-14-04

Principal Investigator Name	Project Oversight Committee Chair Name	Project Start Date (m/d/yyyy)
Brent Phares	Barry Paye	8/13/2013
(Area Code) Telephone Number	(Area Code) Telephone Number	Original End Date (m/d/yyyy)
515-294-5879	608-246-7945	2/12/2015
Email Address	Email Address	**Current End Date** (m/d/yyyy)
bphares@iastate.edu	Barry.Paye@dot.wi.gov	2/12/2015

Project Schedule Status *(check one)*
☐ On Schedule ☐ On Revised Schedule ☐ Ahead of Schedule ☒ Behind Schedule

Project Budget Status

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
$79,974.00	$37,328.98	$46,574.76	58%	60%

Project Description

It is widely recognized that approach slabs/panels play a critical role in the highway system. These panels must provide a smooth transition from mainline pavements to bridges. Beyond being responsible for the majority of roughness typically associated with bridges, these panels must be able to effectively accommodate thermal expansion and contraction of both the bridge and the mainline pavement. Improperly designed/constructed approach panels tend to lead to the formation of a bump at the end of the bridge. The bump is not generally a significant safety problem; rather it can be an expensive maintenance issue. It is very common to attach the approach slab to the bridge via a reinforcing bar extending from the paving notch. By attaching the approach slab to the bridge, one is able to move an expansion joint away from the critical area at the abutment; this promotes drainage of roadway water away from the bridge area. However, one detail that is critical to the long-term, effective performance of approach slabs is that they must allow for free and full expansion and contraction of the surrounding elements. In general, this is accomplished by detailing one or more expansion joints.

The objectives of this work are:

- Review and analyze current approach slab performance
- Review and analyze the national state of the practice with respect to approach slabs
- Determine what other currently adopted approach slab designs may be applicable to Wisconsin
- Determine if there is a problem with current approach slab performance and, if so, will new designs will improve performance
- Determine if three expansion joints are need to provide thermal expansion/contraction relief or if one joint will be sufficient
- Improve the constructability and performance of approach slabs

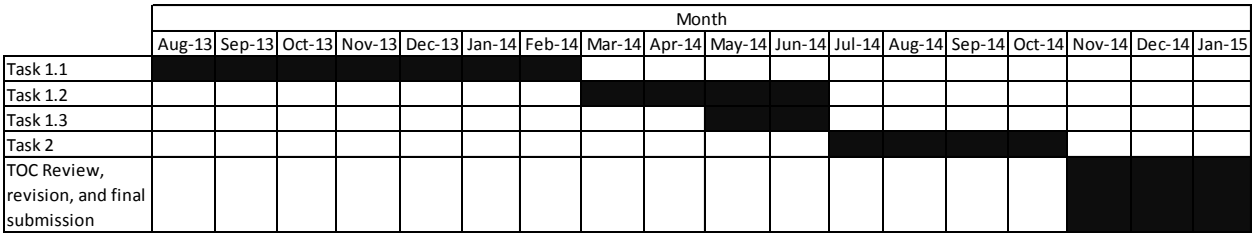
Progress This Quarter *(includes meetings, work plan status, contract status, significant progress, etc.)*
The primary effort completed this quarter was finalizing the first draft of the project final report. This was submitted on time.

Anticipated Work Next Quarter
The primary effort in the next quarter will be revision of the project final report and preparation for the project closeout meeting.

Circumstances Affecting Project or Budget

None.

Attach / Insert Gantt Chart and Other Project Documentation



*(*enter text)*

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Staff Receiving QPR J. Walejko	Date Received (m/d/yyyy) 12/29/2014
Staff Approving QPR Barry Paye	Date Approved (m/d/yyyy) 1/21/2015